

(d) *Film* means any non-rigid, unsupported plastic, rubber or other synthetic or natural film or sheeting, subject to the Act, or any combination thereof, including transparent, translucent, and opaque material, whether plain, embossed, molded, or otherwise surface treated, which is in a form or state ready for use in wearing apparel, and shall include film or sheeting of any thickness.

(e) *Flammability* means those characteristics of a material that pertain to its relative ease of ignition and relative ability to sustain combustion.

(f) *Flame application time* means the 1 second during which the ignition flame is applied to the test specimen.

(g) *Ignition* means that there is a self-sustaining flame on the specimen after the test flame is removed.

(h) *Interlining* means any textile which is intended for incorporation into an article of wearing apparel as a layer between an outer shell and an inner lining.

(i) *Laundering* means washing with an aqueous detergent solution and includes rinsing, extraction and tumble drying as described in § 1610.6.

(j) *Long dimension* means the 150 mm (6 in) length of test specimen.

(k) *Plain surface textile fabric* means any textile fabric which does not have an intentionally raised fiber or yarn surface such as a pile, nap, or tuft, but shall include those fabrics that have fancy woven, knitted or flock-printed surfaces.

(l) *Raised surface textile fabric* means any textile fabric with an intentionally raised fiber or yarn surface, such as a pile, including flocked pile, nap, or tufting.

(m) *Refurbishing* means dry cleaning and laundering in accordance with § 1610.6.

(n) *Sample* means a portion of a lot of material which is taken for testing or for record keeping purposes.

(o) *Specimen* means a 50 mm by 150 mm (2 in by 6 in) section of sample.

(p) *Stop thread supply* means No. 50, white, mercerized, 100% cotton sewing thread.

(q) *Surface flash* means a rapid burning of the pile fibers and yarns on a raised fiber surface textile that may or may not result in base burning.

(r) *Textile fabric* means any coated or uncoated material subject to the Act, except film and fabrics having a nitrocellulose fiber, finish, or coating, which is woven, knitted, felted or otherwise produced from any natural or manmade fiber, or substitute therefore, or combination thereof, of 50 mm (2 in) or more in width, and which is in a form or state ready for use in wearing apparel, including fabrics which have undergone further processing, such as dyeing and finishing, in garment form, for consumer use.

#### § 1610.3 Summary of test method.

The Standard provides methods of testing the flammability of textiles from or intended to be used for apparel; establishes three classes of flammability; sets forth the requirements for classifying textiles; and prohibits the use of single or multi-layer textile fabrics that have burning characteristics that make them unsuitable for apparel. All textiles shall be tested before and after refurbishing according to § 1610.6. Each specimen cut from the textile shall be inserted in a frame, brushed if it has a raised-fiber surface, and held in a special apparatus at an angle of 45°. A standardized flame shall be applied to the surface near the lower end of the specimen for 1 second, and the time required for the flame to proceed up the fabric a distance of 127 mm (5 in) shall be recorded. A notation shall be made as to whether the base of a raised-surface textile fabric ignites or fuses.

#### § 1610.4 Requirements for classifying textiles.

(a) *Class 1, Normal Flammability.* Class 1 textiles exhibit normal flammability and are acceptable for use in clothing. This class shall include textiles which meet the minimum requirements set forth in paragraph (a)(1) or paragraph (a)(2) of this section.

(1) *Plain surface textile fabric.* Such textiles in their original state and/or after being refurbished as described in § 1610.6(a) and § 1610.6(b), when tested as described in § 1610.6 shall be classified as Class 1, Normal flammability, when the burn time is 3.5 seconds or more.

(2) *Raised surface textile fabric.* Such textiles in their original state and/or after being refurbished as described in

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§1610.6(a) and §1610.6(b), when tested as described in §1610.6, shall be classified as Class 1, Normal flammability, when the burn time is more than 7 seconds, or when they burn with a rapid surface flash (0 to 7 seconds), provided the intensity of the flame is so low as not to ignite or fuse the base fabric.

(b) *Class 2, Intermediate flammability.* Class 2 fabrics, applicable only to raised-fiber surface textiles, are considered to be of intermediate flammability, but may be used for clothing. This class shall include textiles which meet the minimum requirements set forth in paragraph (b)(2) of this section.

(1) *Plain surface textile fabric.* Class 2 is not applicable to plain surface textile fabrics.

(2) *Raised surface textile fabric.* Such textiles in their original state and/or after being refurbished as described in §1610.6(a) and §1610.6(b), when tested as described in §1610.6, shall be classified as Class 2, Intermediate flammability, when the burn time is from 4 through 7 seconds, both inclusive, and the base fabric ignites or fuses.

(c) *Class 3, Rapid and intense burning.* Class 3 textiles exhibit rapid and intense burning, are dangerously flammable and shall not be used for clothing. This class shall include textiles which have burning characteristics as described in paragraphs (c)(1) and (c)(2) of this section. Such textiles are considered dangerously flammable because of their rapid and intense burning.

(1) *Plain surface textile fabric.* Such textiles in their original state and/or after refurbishing as described in §1610.6(a) and §1610.6(b), when tested as described in §1610.6, shall be classified as Class 3 Rapid and Intense Burning when the time of flame spread is less than 3.5 seconds.

(2) *Raised surface textile fabric.* Such textiles in their original state and/or after refurbishing as described in §1610.6(a) and §1610.6(b), when tested as described in §1610.6, shall be classified as Class 3 Rapid and Intense Burning when the time of flame spread is less than 4 seconds, and the base fabric starts burning at places other than the point of impingement as a result of the surface flash (test result code SFBB).

TABLE 1 TO § 1610.4—SUMMARY OF TEST CRITERIA FOR SPECIMEN CLASSIFICATION [SEE § 1610.7]

Class	Plain surface textile fabric	Raised surface textile fabric
1 .....	Burn time is 3.5 seconds or more ACCEPTABLE (3.5 sec is a pass).	(1) Burn time is greater than 7.0 seconds; or (2) Burn time is 0–7 seconds with no base burns (SFBB). Exhibits rapid surface flash only. ACCEPTABLE.
2 .....	Class 2 is not applicable to plain surface textile fabrics.	Burn time is 4–7 seconds (inclusive) with base burn (SFBB). ACCEPTABLE.
3 .....	Burn time is less than 3.5 seconds. NOT ACCEPTABLE.	Burn time is less than 4.0 seconds with base burn (SFBB). NOT ACCEPTABLE.

§ 1610.5 Test apparatus and materials.

(a) *Flammability apparatus.* The flammability test apparatus consists of a draft-proof ventilated chamber enclosing a standardized ignition mechanism, sample rack, and automatic timing mechanism. The flammability apparatus shall meet the minimum requirements for testing as follows.

(1) *Test chamber—(i) Test chamber structure.* The test chamber shall be a metal, draft-proof ventilated chamber. The test chamber shall have inside dimensions of 35.3 cm high by 36.8 cm wide by 21.6 cm deep (14 in by 14.5 in by 8.5 in). There shall be eleven or twelve

12.7 mm diameter (0.5 in) holes equidistant along the rear of the top closure. The front of the chamber shall be a close fitting door with an insert made of clear material (i.e., glass, plexiglass) to permit observation of the entire test. A ventilating strip is provided at the base of the door in the front of the apparatus. The test chamber to be used in this test method is illustrated in Figures 1 and 2 of this part.

(ii) *Specimen rack.* The specimen rack provides support for the specimen holder (described in paragraph (a)(1)(iii) of this section) in which the specimen is